

State of Illinois
Department of Transportation
Division of Highways
Springfield

SPECIFICATIONS
FOR
BITUMINOUS MIXES FOR MAINTENANCE USE

Reinforced Fiber Mixture

Serial Number: M126-95

1. DESCRIPTION. These specifications cover the manufacture of bituminous mixtures, reinforced with short-cut synthetic fibers, either polypropylene or polyester, for use in highway maintenance. Each mixture shall meet the individual requirements of one of the following specifications except for the addition and mixing of the synthetic fibers: M17-95, Specification for Bituminous Mixtures for Maintenance Use, Emulsified Asphalt Type; M19-95, Specification for Bituminous Mixtures for Maintenance Use, Medium Curing Liquid Asphalt Type; or M48-79, Specification for Bituminous Mixtures for Maintenance Use, Emulsified Asphalt HFE-300 or Inverted Emulsified Asphalt CBAE-2.

2. MATERIAL. In addition to the individual MATERIAL requirements for each mixture, add the following:

(d) Fibers

1. The fibers shall be either polypropylene or polyester with the following physical properties:

Polypropylene Fibers (Hercules FiberPave 3010 or equal)

Length:	10 ⁺² mm
Denier:	4 ⁺¹
Crimp:	None
Tensile Strength:	40,000 psi, minimum
Specific Gravity:	0.91 (typical)
Moisture Regain @ 70° F. and 65% RH:	0.1% (typical)

Polyester Fibers (Kapejo BoniFibers B, GFC Materials Company Petroflex, or equal)

Length:	6 mm
Diameter:	$6 \times 10^{-4} \pm 2 \times 10^{-4}$ inch
Tensile Strength:	70,000 psi minimum
Melt Temperature:	480° F., minimum
Elongation at Break:	33% minimum

3. PREPARATION OF MIXES. In addition to the individual PREPARATION OF MIXTURES requirements for each mixture, add the following:

"Polypropylene fiber mix preparation shall be as follows. The fibers shall be added to the mix at the rate of 0.3% by total weight of mixture (6 pounds per ton of mix). The fiber shall be proportioned by weight to the pugmill, dry mixed for 10 seconds, minimum, followed by a minimum wet mixing with the asphalt of 30 seconds. The asphalt content of the mix shall be increased by 0.3% by weight of mix over the normal percent of asphalt required in each individual mixture. In no case shall the temperature of the asphalt exceed 300 °F or the aggregate temperature exceed 250 °F."

" Polyester fiber mix preparation shall be as follows. For each ton of mix, 6 pounds of polyester fibers shall be added and dry mixed for 45 seconds, minimum, followed by a minimum wet mixing with the asphalt of 30 seconds. The fibers should be emptied from the bag into the pugmill. The asphalt content shall be increased by 0.4% by weight over the normal percent of asphalt required in each individual mix."

Effective September 1, 1995

This specification supersedes Serial Number M126-86, effective February 16, 1986.

M126-95